

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	William C. Phillips; Jeremy J. Odegard; Michael W. Horvath	Confirmation No.	9336
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Docket No.:	1023-291US01		
Title:	NEUROSTIMULATOR PROGRAMMER WITH CLOTHING ATTACHABLE ANTENNA		

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By: 

Name: Arrendle Brown

APPEAL BRIEF

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Sir:

This is an Appeal Brief in support of an appeal from the final Office Action mailed June 13, 2008, which finally rejected claims 1-9 and 11-35. The Notice of Appeal was filed October 10, 2008. The period for filing this Brief therefore runs through December 10, 2008.

Please charge Deposit Account No. 50-1778 the amount of \$540.00 for submission of this Appeal Brief, as required by 37 C.F.R. §41.37(a)(2) for a large entity. Please charge any additional fees that may be required or credit any overpayment to Deposit Account No. 50-1778.

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REAL PARTY OF INTEREST

The Real Party of Interest is Medtronic, Inc., of Minneapolis, Minnesota.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1–9 and 11–35 are pending and the subject of this appeal. Claims 1–9 and 11–35 are set forth in the attached Claims Appendix. The originally filed application included claims 1–15. Claims 16–26 were added in a Preliminary Amendment filed on March 9, 2004; claims 27–29 were added in an Amendment filed on June 5, 2006; and claims 30–35 were added in an Amendment filed on July 20, 2008. Originally filed claim 10 was canceled in an Amendment filed on November 22, 2006.

Claims 1–8, 16, 18–27, and 29–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cimochoowski et al. (U.S. Patent No. 5,967,986; hereafter “Cimochoowski”) in view of Wallerstorfer et al. (U.S. Patent No. 5,478,995; hereafter “Wallerstorfer”) or in view of Lippert (U.S. Patent No. 6,634,563) or in view of McEowen (U.S. Patent No. 6,810,237).

Claims 9, 11–23, 25, 26, 28, 29, and 33–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pool et al. (U.S. Patent No. 6,561,975; hereafter “Pool”) in view of Lippert or in view of Wallerstorfer or in view of McEowen.

Claims 1–9 and 11–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taepke, II et al. (U.S. Patent No. 6,650,939; hereafter “Taepke”) in view of Lippert or in view of Wallerstorfer or in view of McEowen.

STATUS OF AMENDMENTS

Appellant has not submitted any amendments subsequent to the issuance of the final Office Action mailed June 13, 2008. The pending claims are those presented in the Amendment filed on December 28, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites an antenna¹ for a medical device programmer². The antenna defines an aperture³ comprising a wide end⁴ and a channel adjacent the wide end⁵. The channel is narrower than the wide end⁶ and is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit⁷ and thereby hold the antenna in a substantially fixed position relative to an implantable medical device⁸.

Independent claim 9 recites a method comprising positioning an antenna⁹ relative to an implanted medical device¹⁰. The antenna defines an aperture¹¹ comprising a wide end¹² and a channel adjacent the wide end¹³. The channel is narrower than the wide end¹⁴. The method further comprises pulling at least some of a portion of an item of clothing into the channel in the antenna¹⁵ to thereby hold the antenna in a substantially fixed position relative to the implantable medical device¹⁶ by an interference fit or friction fit between at least a portion of the channel in the antenna and the clothing¹⁷.

Independent claim 18 recites a medical device programmer¹⁸ comprising a device housing¹⁹ and a telemetry circuitry²⁰ mounted within the device housing. The medical device programmer further comprises an antenna²¹ defining an aperture²². The aperture comprises a

¹ Appellant's originally filed application, FIGS. 1, 2, 6A, ref. num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

² *Id.* at FIGS. 1, 2, 4, 7, 22, ref. num. 20; page 2, lines 12–13; page 10, lines 10–16.

³ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

⁴ *Id.* at FIG. 6A, ref. num. 80; page 19, lines 7–9.

⁵ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

⁶ *Id.*

⁷ *Id.* at page 5, lines 19–23; page 19, lines 10–17.

⁸ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

⁹ *Id.* at FIGS. 1, 2, 6A, ref. num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

¹⁰ *Id.* at page 5, lines 16–17; page 19, lines 6–7.

¹¹ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

¹² *Id.* at FIG. 6A, ref. num. 80; page 19, lines 7–9.

¹³ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

¹⁴ *Id.*

¹⁵ *Id.* at page 5, lines 19–23; page 19, lines 12–14.

¹⁶ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

¹⁷ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

¹⁸ *Id.* at FIGS. 1, 2, 4, 7, 22, ref. num. 20; page 2, lines 12–13; page 10, lines 10–16.

¹⁹ *Id.* at FIG. 4, ref. num. 47; page 15, line 30 to page 16, line 8.

²⁰ *Id.* at FIGS. 1 and 2, ref. num. 30; page 14, lines 27–28.

²¹ *Id.* at FIGS. 1, 2, 6A, ref. num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

²² *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

wide end²³ and a channel disposed adjacent the wide end²⁴. The channel is narrower than the wide end²⁵ and is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit²⁶ and thereby hold the antenna in a substantially fixed position relative to an implantable medical device²⁷. The medical device programmer also comprises a cable²⁸ to couple the antenna to the telemetry circuitry, and control circuitry²⁹ to control the telemetry circuitry to transmit information to the implantable medical device via the antenna and receive information from the implantable medical device via the antenna.

Independent claim 25 recites an antenna³⁰ for a medical device programmer³¹. The antenna comprises an antenna head³². The antenna also comprises means for attaching³³ the antenna head to an item of clothing associated with a patient and thereby holding the antenna in a substantially fixed position relative to an implantable medical device³⁴. The means comprises an aperture defined by the antenna head³⁵. The aperture comprises a wide end³⁶ and a channel disposed adjacent the wide end³⁷. The channel is narrower than the wide end³⁸ and is formed to hold a portion of the item of clothing associated with the patient by an interference fit or friction fit³⁹ and thereby hold the antenna in a substantially fixed position relative to the implantable medical device⁴⁰.

²³ Appellant's originally filed application, FIG. 6A, ref. num. 80; page 19, lines 7–9.

²⁴ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

²⁵ *Id.*

²⁶ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

²⁷ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

²⁸ *Id.* at FIG. 6A, ref. num. 86; page 2, lines 21–23; page 5, lines 15–16; page 11, lines 24–26; page 13, lines 3–5; page 19, lines 5–6.

²⁹ *Id.* at FIG. 1, ref. num. 22; page 11, lines 19–22; page 13, line 14.

³⁰ *Id.* at FIGS. 1, 2, 6A, ref. num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

³¹ *Id.* at FIGS. 1, 2, 4, 7, 22, ref. num. 20; page 2, lines 12–13; page 10, lines 10–16.

³² *Id.* at FIG. 6A, ref. num. 74; page 5, lines 15–23; page 13, lines 3–5; page 19, lines 5–9.

³³ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

³⁴ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

³⁵ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

³⁶ *Id.* at FIG. 6A, ref. num. 80; page 19, lines 7–9.

³⁷ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

³⁸ *Id.*

³⁹ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

⁴⁰ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

Independent claim 27 recites an antenna⁴¹ for a medical device programmer⁴². The antenna defines an aperture⁴³ with a wide end to insert a portion of an item of clothing associated with a patient⁴⁴ and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture⁴⁵. The channel is formed to hold the portion of the item of clothing by an interference fit or friction fit⁴⁶ and thereby hold the antenna in a substantially fixed position relative to an implantable medical device⁴⁷.

Independent claim 28 recites a method comprising positioning an antenna⁴⁸ relative to an implanted medical device⁴⁹. The antenna defines an aperture⁵⁰ with a wide end⁵¹ and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture⁵². The method also includes inserting a portion of an item of clothing associated with a patient into the wide end of the aperture⁵³. In addition, the method includes pulling a portion of the item of clothing into the channel of the aperture to thereby hold the antenna in a substantially fixed position relative to the implantable medical device⁵⁴ by an interference fit or friction fit⁵⁵ between at least a portion of the channel and the clothing⁵⁶.

Independent claim 29 recites a medical device programmer⁵⁷ comprising a device housing⁵⁸ and a telemetry circuitry⁵⁹ mounted within the device housing. The medical device programmer also comprises an antenna⁶⁰ defining an aperture⁶¹ with a wide end to insert a

⁴¹ Appellant's originally filed application FIGS. 1, 2, 6A, ref num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

⁴² *Id.* at FIGS. 1, 2, 4, 7, 22, ref. num. 20; page 2, lines 12–13; page 10, lines 10–16.

⁴³ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

⁴⁴ *Id.* at FIG. 6A, ref. num. 80; page 19, lines 7–9.

⁴⁵ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

⁴⁶ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

⁴⁷ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

⁴⁸ *Id.* at FIGS. 1, 2, 6A, ref num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

⁴⁹ *Id.* at page 5, lines 16–17; page 19, lines 6–7.

⁵⁰ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

⁵¹ *Id.* at FIG. 6A, ref. num. 80; page 19, lines 7–9.

⁵² *Id.* at page 5, lines 17–21; page 19, lines 7–12.

⁵³ *Id.* at page 5, lines 19–23; page 19, lines 12–14.

⁵⁴ *Id.* at page 5, lines 19–23; page 19, lines 15–19.

⁵⁵ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

⁵⁶ *Id.* at page 5, lines 19–23; page 19, lines 12–14.

⁵⁷ *Id.* at FIGS. 1, 2, 4, 7, 22, ref. num. 20; page 2, lines 12–13; page 10, lines 10–16.

⁵⁸ *Id.* at FIG. 4, ref. num. 47; page 15, line 30 to page 16, line 8.

⁵⁹ *Id.* at FIGS. 1 and 2, ref. num. 30; page 14, lines 27–28.

⁶⁰ *Id.* at FIGS. 1, 2, 6A, ref num. 34; page 2, lines 21–23; page 5, lines 15–23; page 19, line 3 to page 20, line 2.

⁶¹ *Id.* at FIG. 6A, ref. num. 78; page 5, lines 17–21; page 19, lines 7–12.

portion of an item of clothing associated with a patient⁶² and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture⁶³. The channel is formed to hold the portion of the item of clothing⁶⁴ and thereby hold the antenna in a substantially fixed position relative to an implantable medical device⁶⁵ by an interference fit or friction fit⁶⁶. The medical device programmer further includes a cable⁶⁷ to couple the antenna to the telemetry circuitry, and control circuitry⁶⁸ to control the telemetry circuitry to transmit information to the implantable medical device via the antenna and receive information from the implantable medical device via the antenna⁶⁹.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Appellant submits the following grounds of rejection to be reviewed on appeal:

- (1) The first ground of rejection to be reviewed on appeal is the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) as being unpatentable over Cimochofski in view of Wallerstorfer.
- (2) The second ground of rejection to be reviewed on appeal is the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) as being unpatentable over Cimochofski in view of Lippert.
- (3) The third ground of rejection to be reviewed on appeal is the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) as being unpatentable over Cimochofski in view of McEowen.

⁶² Appellant's originally filed application, FIG. 6A, ref. num. 80; page 19, lines 7–9.

⁶³ *Id.* at page 5, lines 17–21; page 19, lines 7–12.

⁶⁴ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

⁶⁵ *Id.* at page 5, lines 19–23; page 19, lines 16–19.

⁶⁶ *Id.* at page 5, lines 19–21; page 19, lines 10–17.

⁶⁷ *Id.* at FIG. 6A, ref. num. 86; page 2, lines 21–23; page 5, lines 15–16; page 11, lines 24–26; page 13, lines 3–5; page 19, lines 5–6.

⁶⁸ *Id.* at FIG. 1, ref. num 22; page 11, lines 19–22; page 13, line 14.

⁶⁹ *Id.* at FIG. 1, ref. num 22; page 11, lines 19–22; page 13, line 14.

- (4) The fourth ground of rejection to be reviewed on appeal is the rejection of claims 9, 11–23, 25, 26, 28, 29, and 33–35 under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of Lippert.
- (5) The fifth ground of rejection to be reviewed on appeal is the rejection of claims 9, 11–23, 25, 26, 28, 29, and 33–35 under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of Wallerstorfer.
- (6) The sixth ground of rejection to be reviewed on appeal is the rejection of claims 9, 11–23, 25, 26, 28, 29, and 33–35 under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of McEowen.
- (7) The seventh ground of rejection to be reviewed on appeal is the rejection of claims 1–9 and 11–35 under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of Lippert.
- (8) The eighth ground of rejection to be reviewed on appeal is the rejection of claims 1–9 and 11–35 under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of Wallerstorfer.
- (9) The ninth ground of rejection to be reviewed on appeal is the rejection of claims 1–9 and 11–35 under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of McEowen.

ARGUMENT

Appellant respectfully traverses the current rejection of claims 1–9 and 11–35 advanced in the final Office Action dated June 13, 2008, and requests reversal by the Board of Patent Appeals based on the arguments below. For each ground of rejection, Appellant respectfully requests separate review of each set of claims argued under separate headings. For at least the reasons presented below, the Examiner has failed to establish a prima facie case of obviousness with respect to Appellant’s claims 1–9 and 11–35. Appellant respectfully requests reversal of the rejections of claims 1–9 and 11–35.

FIRST GROUND OF REJECTION UNDER APPEAL

Claims 1–8, 16, 18–27, and 29–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cimochowski in view of Wallerstorfer.

CLAIMS 1–6, 8, 16, 18–22, 24–27, AND 29

In support of the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) based on Cimochowski in view of Wallerstorfer, the Examiner found that the external coil disclosed by Cimochowski constitutes an antenna with a ring-like structure that defines both a channel and an aperture, reasoning that an aperture is defined as an opening and a hole, gap, or slit, and a channel is defined as a course through which something can be directed or moved.⁷⁰ The Examiner further asserted that the ring-like antenna structure described by Cimochowski is capable of holding a portion of clothing associated with a patient due to the fact that clothing can be placed within the opening, and, in turn, hold the ring-shaped antenna in a relatively fixed position relative to an implanted medical device.⁷¹

Appellant disagrees with such the Examiner's characterization of the external coil disclosed by Cimochowski. In addition, Appellant respectfully disagrees that Cimochowski in view of Wallerstorfer discloses or suggests each and every requirement of independent claims 1, 18, 25, 27, and 29, as required by 35 U.S.C. § 103(a). For example, neither Cimochowski nor Wallerstorfer discloses or suggests an antenna defining an aperture comprising a wide end and a narrower channel adjacent the wide end.

Cimochowski only describes an antenna comprising an external coil with a ring-like structure.⁷² As shown in FIG. 12 of Cimochowski, reproduced below, the external coil 154 defines a wide, open, circular aperture capable of wrapping around relatively large portions of a patient's body.⁷³

⁷⁰ Final Office Action mailed June 13, 2008, page 4, line 23 to page 5, line 6.

⁷¹ *Id.*

⁷² Cimochowski, column 16, lines 1–9; FIG. 12.

⁷³ *Id.*

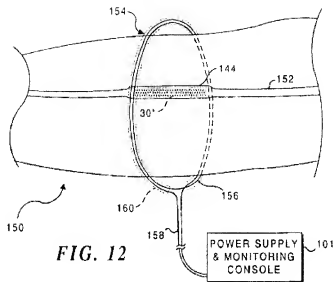


FIG. 12

In the final Office Action, the Examiner acknowledged that Cimochowski “fail[s] to teach an antenna defining an aperture comprising a wide end and a narrower channel adjacent the wide end.”⁷⁴ In recognition of the failure of Cimochowski to teach or suggest an antenna that defines an aperture comprising a wide end and a channel adjacent the wide end, the Examiner found that the aperture 47 shown in FIG. 10 (reproduced below) of Wallerstorfer and column 6, lines 44–66, of Wallerstorfer disclose an antenna comprising a wide end and a channel adjacent to the wide end formed to hold a portion of an item of clothing.⁷⁵

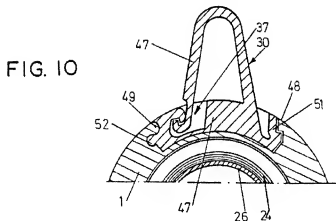


FIG. 10

Appellant notes that the reference number “47” in FIG. 10 of Wallerstorfer refers to a base part of a fastening element 30, and not to an antenna. While at first glance, FIG. 10 of

⁷⁴ Final Office Action mailed June 13, 2008, page 3, lines 1–3.

⁷⁵ *Id.* at page 5, lines 15–20.

Wallerstorfer may appear to illustrate an aperture comprising a wide end and a channel adjacent to the wide end, a closer look at Wallerstorfer indicates that Wallerstorfer, among other things, fails to disclose either an antenna that defines an aperture comprising the wide end and an adjacent channel, or an aperture that is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit, and thereby hold the antenna in a substantially fixed position relative to an implantable medical device.

As shown in FIG. 6A (reproduced below) of Appellant's originally-filed disclosure, an external antenna 34 defines an aperture 78 with a wide end 80 and a narrow end 82 adjacent to the wide end 80.⁷⁶ The fastening element 30 described by Wallerstorfer does not include both a wide end and a narrow channel.

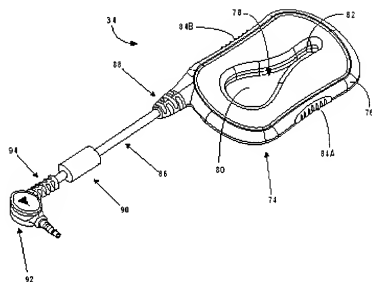


Fig. 6A

Wallerstorfer merely describes fastening mechanisms for tags, where the tags could include an antenna. Wallerstorfer does not contemplate integration of the fastening mechanism with an antenna itself. In contrast, Appellant's independent claims 1, 18, 25, 27, and 29 recite an antenna with specific structure integrally formed with it to permit the antenna to hold an item of clothing by interference fit or friction fit. Appellant's independent claims 1, 18, 25, 27, and 29 do not recite an antenna and a separate fastener, as shown by Wallerstorfer.

Moreover, Appellant does not agree that the fastening element 30 shown in FIG. 10 (reproduced above) of Wallerstorfer illustrates an aperture comprising a wide end and a channel

⁷⁶ Appellant's originally-filed disclosure, paragraph [0094].

adjacent to the wide end and narrower than the wide end, whereby the channel is formed to hold a portion of an item of clothing and hold an antenna in a substantially fixed position. It is unclear what portions of the fastening element 30 the Examiner considers to be a wide end and a narrower adjacent channel that is formed to hold a portion of clothing. It appears that the fastening element 30 does not define a wide end and a narrow channel. The narrower end of the fastening element 30 in Wallerstorfer does not define a channel, much less a channel that is formed to hold a portion of an item of clothing by interference fit or friction fit, as required by Appellant's independent claims 1, 18, 25, 27, and 29.

Wallerstorfer illustrates a fastening element 30 with a latch that enables the fastening element to be opened⁷⁷, rather than an antenna defining an aperture. The fastening element 30 disclosed by Wallerstorfer is completely separate from the antenna 16 of the data transmission device.⁷⁸ Appellant's independent claims 1, 18, 25, 27, and 29 are not intended to claim all apertures that are formed to couple in some way to clothing. Instead, Appellant's independent claims 1, 18, 25, 27, and 29 clearly recite an antenna for a medical device, where the antenna defines an aperture comprising a wide end and a channel adjacent the wide end, and where the channel is formed to hold a portion of an item of clothing.

Cimochowski and Wallerstorfer also fail to disclose or suggest an antenna that holds a portion of an item of clothing by an interference fit or friction fit and thereby holds the antenna in a substantially fixed position relative to an implantable medical device, as required by Appellant's independent claims 1, 18, 25, 27, and 29. Cimochowski fails even to mention attaching the antenna to an item of clothing of the patient. Instead, Cimochowski describes an antenna having a wide, open aperture capable of wrapping around relatively large portions of a patient's body, and makes no mention of any structure resembling a channel that is formed to hold a portion of clothing of a patient in order to position the antenna relative to an implantable medical device within the patient. For example, Cimochowski explicitly discloses that the external coil antenna includes a plurality of turns sufficient in diameter to encompass the thigh of a patient.⁷⁹ Cimochowski further states that the external coil antenna can be made sufficiently

⁷⁷ Wallerstorfer, column 5, line 58 to column 6, line 6; *see also* FIG. 16.

⁷⁸ *See* Wallerstorfer, FIG. 2, which illustrates an antenna 16 that is separate from a fastening element 23.

⁷⁹ Cimochowski, column 16, lines 7-9.

large to encompass the portion of the body in which the implanted stent is disposed, such as the torso, another limb of the patient, or the neck of the patient.⁸⁰

The Examiner stated that Cimochoowski discloses that the aperture is formed “to hold a portion of an item of clothing by an interference or friction fit since there is inherently friction between two materials being held together.”⁸¹ However, Cimochoowski fails to disclose or suggest that its antenna is held in a substantially fixed position relative to an implantable medical device via an interference fit or friction fit between a channel of an antenna and clothing associated with a patient, as required by Appellant’s independent claims 1, 18, 25, 27, and 29. Instead, the Cimochoowski antenna encompasses a portion of a body, such as a torso, limb or neck of the patient, without regard to whether the antenna has an interference fit or friction fit with the clothing.

Wallerstorfer also fails to disclose an antenna or any structure that defines a channel that is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit, as recited by Appellant’s independent claims 1, 18, 25, 27, and 29. Although Wallerstorfer states that the fastening element 30 may be used to hang a data carrier on a piece of clothing,⁸² Wallerstorfer does not disclose that the item of clothing may be held by an interference fit or friction fit within a channel of an aperture defined by the fastening element 30, nor any structure capable of providing such a fit. The Wallerstorfer device includes the fastening element 30 as well as a cord 24 that can be pulled out of the device against spring force while the fastening element 30 is hung on a piece of clothing.⁸³ Because the purpose of the fastening element 30 in Wallerstorfer is to secure the device to clothing as the cord 24 is pulled from the device, it seems a more secure attachment mechanism, such as a fastening element 30 that interlocks with a loop of a zipper, would be more likely than a friction fit between the aperture defined by the fastening element 30 and clothing.

Even if Cimochoowski was modified in view of Wallerstorfer, the resulting device would not include each and every element of Appellant’s claims. For example, the resulting device would not include an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Instead, the resulting device would include the external coil

⁸⁰ Cimochoowski, column 16, lines 13–16.

⁸¹ Final Office Action mailed June 13, 2008, page 5, lines 12–13.

⁸² Wallerstorfer, column 5, lines 34–35.

⁸³ *Id.* at column 5, lines 35–36.

disclosed by Cimochowski and a fastening element 30 that is used to attach the external coil to a piece of clothing. Neither Cimochowski nor Wallerstorfer discloses or suggests modifying the shape of the external coil disclosed by Cimochowski in the manner proposed by the Examiner.

It is unclear why one having ordinary skill in the art would have looked to Wallerstorfer to modify the shape of the Cimochowski external coil. To establish obviousness, the Examiner must identify an apparent reason why one of ordinary skill in the art would have been motivated to make a modification or combination to arrive at the claimed invention.⁸⁴ An invention composed of several elements is not proved obvious merely by demonstrating that each of the elements was independently known.⁸⁵ Rather, the Examiner should identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the same way as the claimed invention.⁸⁶ In the final Office Action, the Examiner vaguely referred to Cimochowski and Wallerstorfer as being in the “same problem solving area” of attaching items comprising antennas securely to clothing.⁸⁷ Appellant respectfully disagrees with the Examiner.

Cimochowski and Wallerstorfer are not in the same problem solving area. Cimochowski is directed toward a stent with one or more sensors to sense a parameter, such as fluid flow or fluid velocity through a vessel in a patient.⁸⁸ On the other hand, Wallerstorfer is directed toward a data carrier structure, such as for entry tickets.⁸⁹ The Office Action has failed to identify any apparent reason why one of ordinary skill in the relevant field would have looked to elements in Wallerstorfer to modify Cimochowski.

Moreover, modifying Cimochowski in the manner proposed by the Examiner would appear to undermine the fundamental principle of operation of the Cimochowski external coil. Thus, Cimochowski in view of Wallerstorfer is insufficient to render Appellant’s claims *prima facie* obvious.⁹⁰ The Cimochowski reference specifically states, “Coupling is maximized between external coil 154 and RF antenna 30’ used on the stent when the central axes of both the RF antenna and the external coil are coaxially aligned . . . coupling is minimized when the

⁸⁴ *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007); *see also* MPEP 2142.

⁸⁵ *Id.*

⁸⁶ *See* MPEP 2143(A), *citing KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d at 1396.

⁸⁷ Final Office Action mailed June 13, 2008, page 5.

⁸⁸ Cimochowski, Abstract.

⁸⁹ Wallerstorfer, column 3, lines 64–67.

⁹⁰ *See* MPEP 2143.01(VI).

central axes of the external coil is perpendicular to the axes of the RF antenna.”⁹¹ Thus, Cimochowski discloses that the antenna with an aperture sized to encompass a portion of the body of a patient helps properly communicate with the implanted stent.

The antenna disclosed by the Cimochowski reference appears to require a structure that permits positioning around the implanted stent by encompassing a body part of a patient. Indeed, it appears that the antenna described by Cimochowski would not operate as intended with the implanted stent when merely positioned relative to the implanted stent with the fastening element 30 disclosed by Wallerstorfer. Accordingly, it is unclear why one would modify the Cimochowski coil 154 in view of Wallerstorfer to merely be positioned relative to the stent, rather than around the stent.

For at least these reasons, the rejection of independent claims 1, 18, 25, 27, and 29 under 35 U.S.C. § 103(a) over Cimochowski in view of Wallerstorfer is improper. Claims 2–6, 8, and 16 depend from claim 1, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 2–6, 8, 16, 19–22, 24, and 26 is also improper. Appellant respectfully requests reversal of the rejection of claims 1–6, 8, 16, 18–22, 24–27, and 29 under 35 U.S.C. § 103(a) based on Cimochowski in view of Wallerstorfer.

CLAIMS 7 AND 23

Dependent claims 7 and 23 recite that the aperture defined by the antenna of claims 1 and 18, respectively, is tapered. In support of the rejection of claims 7 and 23, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”⁹² Further, the Examiner stated that teardrops may be circular in shape, and Cimochowski discloses a circular antenna coil.⁹³

Appellant’s claims 7 and 23 do not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Cimochowski or Wallerstorfer in support of the rejection of claims 7 and 23. Accordingly, the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness of claims 7 and 23. The rejection is therefore improper and should be reversed.

⁹¹ Cimochowski, column 16, lines 16–27

⁹² Final Office Action mailed June 13, 2008, page 6, line 22 to page 7, line 1.

⁹³ *Id.* at page 7, lines 1–2.

In fact, neither Cimochoowski nor Wallerstorfer discloses or suggests a tapered channel. As the Examiner pointed out, Cimochoowski discloses a circular antenna coil, which is not tapered. Further, as described above with respect to the independent claims, Wallerstorfer does not even disclose or suggest an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Hence, Wallerstorfer cannot disclose or suggest that the channel is tapered, as recited by Appellant's claims 7 and 23. As a result, Cimochoowski in view of Wallerstorfer fail to disclose or suggest the requirements of Appellant's claims 7 and 23. For at least these reasons, the rejection of claims 7 and 23 is improper and should be reversed.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape. While the Examiner rejected claims 30, 31, 33, and 34 in view of Cimochoowski in view of Wallerstorfer, the Examiner did not sufficiently address the limitations of claims 30, 31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Cimochoowski in view of Wallerstorfer discloses each and every element of claims 30, 31, 33, and 34. As provided in 37 C.F.R. 1.104(c) (2), the Examiner must designate the particular part of a reference as nearly as practicable. However, with respect to claims 30, 31, 33, and 34, as well as many of the other dependent claims, the Examiner has failed to do so. Accordingly, the rejection of claims 30, 31, 33, and 34 is improper and should be reversed.

Cimochoowski in view of Wallerstorfer fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a channel adjacent the wide end, wherein the channel is narrower than the wide end, as required by claims 30 and 33. As noted above, the Examiner acknowledged that Cimochoowski fails to disclose such an antenna.⁹⁴ In addition, Wallerstorfer fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end.

⁹⁴ Final Office Action mailed June 13, 2008, page 3, lines 1-3.

The Examiner asserted that the fastening element 30 disclosed by Wallerstorfer is an “antenna tag”⁹⁵ that defines an aperture. However, the fastening element 30 disclosed by Wallerstorfer is separate from the antenna 16 of the data carrier device. In contrast, claims 30 and 33 require an antenna that comprises a housing defining the aperture and an antenna loop disposed within the housing. Thus, even if the fastening element 30 defines an aperture in accordance with Appellant’s independent claims 1 and 9 as asserted by the Examiner, an assertion with which Appellant disagrees, the fastening element 30 does not meet the limitations of Appellant’s claims 30 and 33 because the antenna 16 in Wallerstorfer is not disposed within the fastening element 30. Wallerstorfer fails to even suggest that an antenna loop is disposed within the fastening element 30.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Cimochoowski in view of Wallerstorfer, and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Cimochoowski in view of Wallerstorfer fails to disclose or suggest the antenna of Appellant’s claims 32 and 35. In support of the rejection of claims 32 and 35, the Examiner stated that Cimochoowski “discloses plastic materials” and that “molded plastic housings are well known in the biomedical art.”⁹⁶ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified Cimochoowski in view of Wallerstorfer to include an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Cimochoowski external coil was modified in view of Wallerstorfer, the resulting device would not meet the limitations of Appellant’s claims 32 and 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. To the extent that Cimochoowski describes plastic, Cimochoowski refers to a

⁹⁵ Final Office Action dated June 13, 2008, page 5.

⁹⁶ Final Office Action dated June 13, 2008, page 7.

flexible piezoelectric plastic material for an ultrasonic transducer array.⁹⁷ This disclosure does not in any way suggest an antenna comprising a housing that is formed at least in part from plastic, much less a housing defining the specific aperture required by Appellant's claims.

Cimochowski does not disclose or even suggest an antenna comprising a housing that is formed at least in part from plastic. As described above, the fastening element 30 disclosed by Wallerstorfer does not comprise a housing and an antenna loop disposed within the housing, as required by claims 30 and 33, from which claims 32 and 35 depend. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant's claimed antenna based on Cimochowski and Wallerstorfer.

For at least these reasons, claims 32 and 35 are patentable over Cimochowski in view of Wallerstorfer, and the rejection of claims 32 and 35 should be reversed.

SECOND GROUND OF REJECTION UNDER APPEAL

Claims 1–8, 16, 18–27, and 29–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cimochowski in view of Lippert.

CLAIMS 1–6, 8, 16, 18–22, 24–27, AND 29

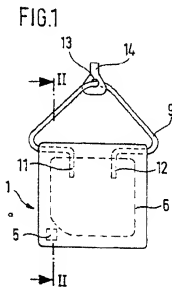
In support of the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) based on Cimochowski in view of Lippert, the Examiner characterized Cimochowski as disclosing an antenna with a ring-like structure that defines both a channel and an aperture, as described above with respect to the first ground of rejection under appeal. The Examiner further asserted that the ring-like antenna structure described by Cimochowski is capable of holding a portion of clothing associated with a patient due to the fact that clothing can be placed within the opening, and in turn hold the ring-shaped antenna in a relatively fixed position relative to an implanted medical device.⁹⁸ The Examiner acknowledged that “Cimochowski . . . does not expressly disclose that the aperture has a wide end and a narrow channel adjacent the wide

⁹⁷ Cimochowski, column 16, lines 59 and 60.

⁹⁸ Final Office Action dated June 13, 2008, page 7.

end,”⁹⁹ but found that the Abstract of Lippert discloses an antenna tag “wherein an aperture comprises a wide end and a channel adjacent to the wide end.”¹⁰⁰

Appellant disagrees that Lippert discloses an antenna defining an aperture comprising a wide end and an adjacent, narrower channel, where the channel is formed to hold a portion of an item of clothing associated with a patient by interference fit or friction fit. As shown in FIG. 1 (reproduced below) of Lippert, Lippert describes an identity card that includes an antenna 6 and a separate loop 9 that is not part of the antenna.¹⁰¹ Lippert does not disclose that the antenna 6 may be used to communicate with an implantable medical device.



The loop 9 disclosed by Lippert does not define a wide end and an adjacent, narrower channel. According to the Examiner, a channel is a “course through which something can be directed or moved.”¹⁰² While one portion of the loop 9 may be considered a wide end, it is unclear what portion of the loop 9 the Examiner considers to be a channel, i.e., according to the Examiner’s interpretation (which Appellant does not necessarily agree with), a structure defining a course through which something can be directed or moved. The triangular structure of the loop 9, as shown in FIG. 1 above, does not define a separate, narrower “course through which something can be directed or moved.” Clearly, a structure that defines a triangular aperture

⁹⁹ Final Office Action dated June 13, 2008, page 5, lines 10–15.

¹⁰⁰ *Id.* at page 5, lines 15–20.

¹⁰¹ Lippert, Abstract.

¹⁰² Final Office Action mailed June 13, 2008, page 5, lines 2–3.

cannot define an aperture that includes both a wide end and a channel that is narrower than the wide end disposed adjacent to each other.

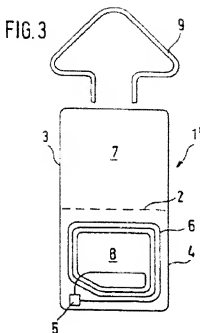
In addition, the loop 9 is not formed to hold a portion of clothing by interference fit or friction fit, as required by Appellant's independent claims 1, 18, 25, 27, and 29. Lippert explicitly states that the loop 9 (shown in FIG. 1, reproduced below) is attached to "an eye or similar aperture in the clothing of an entitled user."¹⁰³ As shown in FIG. 1 (reproduced above) of Lippert, the loop 9 is attached to a tab 14 of a zip fastener runner on the clothing of the user.¹⁰⁴ Lippert does not contemplate any other technique for holding the loop 9 in a substantially fixed position.

As another example of the deficiencies in the Lippert reference, Lippert does not teach that the loop 9 shown in FIG. 1 is defined by an antenna, as set forth in Appellant's independent claims 1, 18, 25, 27, and 29. Appellant's independent claims 1, 18, 25, 27, and 29 recite an antenna that includes structure integrally formed therewith to permit the antenna to hold an item of clothing. On the other hand, the antenna 6 and the loop 9 in the Lippert device are separate elements. The antenna 6 "consists of a conductor which forms several windings in a spiral fashion, and may be located on the section 4 [of the identity card] by a printing process."¹⁰⁵ As FIG. 1 of Lippert (reproduced above) clearly illustrates, the antenna 6 completely bypasses the loop 9 in the identity card 1 and does not define the loop 9, as required by Appellant's independent claims 1, 18, 25, 27, and 29. As further illustrated in an exploded view of the Lippert identity card, copied below, the loop 9 is a distinctly different element than the antenna 6, and, therefore, the loop 9 cannot be defined by the antenna 6.

¹⁰³ Lippert, Abstract.

¹⁰⁴ *Id.* at column 4, lines 15–16.

¹⁰⁵ *Id.* at column 3, line 67 to column 4, line 2.



The fact that Lippert discloses an identity card that includes a loop 9 that can be used to secure an identity card to clothing of a user¹⁰⁶ does not in any way render Appellant's claims 1, 18, 25, 27, and 29 obvious. Appellant's independent claims 1, 18, 25, 27, and 29 clearly recite an antenna for a medical device programmer, where the antenna defines an aperture comprising a wide end and a channel adjacent the wide end, and where the channel is formed to hold a portion of an item of clothing. The antenna 6 in Lippert does not define the loop 9.

Neither Cimochofski nor Lippert discloses or suggests an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end, or an antenna that holds a portion of an item of clothing by an interference fit or friction fit and thereby holds the antenna in a substantially fixed position relative to an implantable medical device. Hence, Cimochofski in view of Lippert fails to teach or suggest each and every requirement recited in Appellant's independent claims 1, 18, 25, 27, and 29.

Even if Cimochofski was modified in view of Lippert, the resulting device would not include each and every element of Appellant's claims. For example, the resulting device would not include an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Instead, the resulting device would include the external coil disclosed by Cimochofski and a loop 9 separate from the external coil, where the loop 9 is used to attach the

¹⁰⁶ Lippert, Abstract column 4, lines 9–11.

external coil to an aperture in clothing of a user. Neither Cimochowski nor Lippert discloses or suggests modifying the shape of the external coil disclosed by Cimochowski in the manner proposed by the Examiner.

It is also unclear why one having ordinary skill in the art would have even looked to Lippert to modify the external coil of Cimochowski to define an aperture including a wide end and a narrower channel disposed adjacent to each other. In the final Office Action, the Examiner vaguely referred to Cimochowski and Lippert as being in the “same problem solving area” of attaching items comprising antennas securely to clothing.¹⁰⁷ Appellant respectfully disagrees. Cimochowski and Lippert are not in the same problem solving area. Cimochowski is directed toward a stent with one or more sensors to sense a parameter, such as fluid flow or fluid velocity through a vessel in a patient.¹⁰⁸ On the other hand, Lippert is directed toward an identity card that helps prevent a non-entitled person from detaching the identity card from clothing of an entitled person.¹⁰⁹ The Examiner has failed to identify any apparent reason why one of ordinary skill in the relevant field would have looked to elements in Lippert to modify Cimochowski.

Moreover, as with Wallerstorfer, modifying Cimochowski in view of Lippert in the manner proposed by the Examiner would appear to undermine the fundamental principle of operation of the Cimochowski external coil. Thus, Cimochowski in view of Lippert is insufficient to render Appellant’s claims *prima facie* obvious.¹¹⁰ Cimochowski discloses that the antenna with an aperture sized to encompass a portion of the body of a patient helps properly communicate with the implanted stent. Indeed, it appears that the antenna described by Cimochowski would not operate as intended with the implanted stent when merely positioned relative to the implanted stent with the loop 9 disclosed by Lippert. Accordingly, it is unclear why one would modify the Cimochowski coil 154 in view of Lippert to merely be positioned relative to the stent, rather than around the stent.

For at least these reasons, the rejection of independent claims 1, 18, 25, 27, and 29 under 35 U.S.C. § 103(a) over Cimochowski in view of Lippert is improper and should be reversed. Claims 2–6, 8, and 16 depend from claim 1, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 2–6, 8, 16, 19–

¹⁰⁷ Final Office Action mailed June 13, 2008, page 5.

¹⁰⁸ Cimochowski, Abstract.

¹⁰⁹ Lippert, column 1, lines 42–58.

¹¹⁰ See MPEP 2143.01(VI).

22, 24, and 26 is also improper. Appellant respectfully requests reversal of the rejection of claims 1–6, 8, 16, 18–22, 24–27, and 29 under 35 U.S.C. § 103(a) based of Cimochoowski in view of Wallerstorfer.

CLAIMS 7 AND 23

Dependent claims 7 and 23 recite that the aperture defined by the antenna of claims 1 and 18, respectively, is tapered. In support of the rejection of claims 7 and 23 as being unpatentable over Cimochoowski in view of Lippert, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”¹¹¹ Further, the Examiner stated that teardrops may be circular in shape, and Cimochoowski discloses a circular antenna coil.¹¹² As noted above, Appellant’s claims 7 and 23 do not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Cimochoowski or Lippert in support of the rejection of claims 7 and 23. Accordingly, the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness of claims 7 and 23. The rejection is therefore improper and should be reversed.

Neither Cimochoowski nor Lippert discloses or suggests a tapered channel. As the Examiner pointed out, Cimochoowski discloses a circular antenna coil, which is not tapered. Further, as described above with respect to the independent claims, Lippert does not even disclose or suggest an antenna that defines an aperture, let alone an aperture comprising a wide end and a narrower channel adjacent the wide end. Hence, Lippert cannot disclose or suggest an antenna defining an aperture with a channel is tapered, as recited by Appellant’s claims 7 and 23. As a result, Cimochoowski in view of Lippert fails to disclose or suggest the requirements of Appellant’s claims 7 and 23. For at least these reasons, the rejection of claims 7 and 23 is improper and should be reversed.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape.

¹¹¹ Final Office Action mailed June 13, 2008, page 6, line 22 to page 7, line 1.

¹¹² *Id.* at page 7, lines 1–2.

While the Examiner rejected claims 30, 31, 33, and 34 in view of Cimochowski in view of Lippert, the Examiner did not sufficiently address the limitations of claims 30, 31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Cimochowski in view of Lippert discloses each and every element of claims 30, 31, 33, and 34.

Cimochowski in view of Lippert fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a channel adjacent the wide end, wherein the channel is narrower than the wide end, as required by claims 30 and 33. As noted above, the Examiner acknowledged that Cimochowski fails to disclose such an antenna.¹¹³ In addition, Lippert fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end. The Examiner asserted that the identity card disclosed by Lippert, which includes an antenna 6 attached to a section 4 and a loop 9 attached to the section 4, discloses an antenna comprising a wide end and a narrower channel adjacent the wide end.¹¹⁴ The Lippert identity card, however, does not include a housing defining an aperture, and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

Even if the loop 9 disclosed by Lippert defines an aperture comprising a wide end and a narrower channel adjacent the wide end, an assertion with which Appellant disagrees, the antenna 6 is not disposed within the loop 9. The structure of the Lippert identity card is shown in FIG. 3 of Lippert (reproduced above). Thus, even if Cimochowski external coil was modified in view of Lippert, the resulting structure would not include an antenna comprising a housing defining an aperture comprising a wide end and a narrower channel adjacent the wide end and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Cimochowski in view of Lippert and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Cimochowski in view of Lippert

¹¹³ Final Office Action mailed June 13, 2008, page 3, lines 1–3.

¹¹⁴ *Id.* at page 5.

fails to disclose or suggest the antenna of Appellant's claims 32 and 35. In support of the rejection of claims 32 and 35, the Examiner stated that Cimochoowski "discloses plastic materials" and that "molded plastic housings are well known in the biomedical art."¹¹⁵ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified the external coil disclosed by Cimochoowski in view of the Lippert identity card to include an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Cimochoowski was modified in view of Lippert, the resulting device would not meet the limitations of Appellant's claims 32 and 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. As described above, Cimochoowski only refers to a flexible piezoelectric plastic material for a ultrasonic transducer array¹¹⁶ and fails to disclose or suggest an antenna comprising a housing that is formed at least in part from plastic. The loop 9 disclosed by Lippert does not comprise a housing and an antenna loop disposed within the housing, as required by claims 30 and 33, from which claims 32 and 35 depend. Instead, in the Lippert reference, the antenna 6 is separate from the loop 9. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant's claimed antenna based on Cimochoowski and Lippert.

For at least these reasons, claims 32 and 35 are patentable over Cimochoowski in view of Lippert, and the rejection of claims 32 and 35 should be reversed.

THIRD GROUND OF REJECTION UNDER APPEAL

Claims 1–8, 16, 18–27, and 29–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cimochoowski in view of McEowen.

CLAIMS 1–6, 8, 16, 18–22, 24–27, AND 29

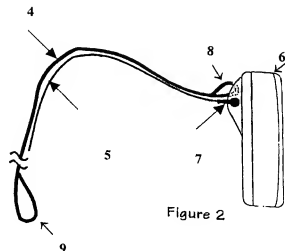
In support of the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) based of Cimochoowski in view of McEowen, the Examiner asserted that that the lanyard handle

¹¹⁵ Final Office Action mailed June 13, 2008, page 7.

¹¹⁶ Cimochoowski, column 16, lines 59 and 60.

member 9 shown in FIG. 1 of McEowen is an antenna defining an aperture with a wide end and a narrower channel.¹¹⁷ Appellant respectfully disagrees.

As an initial matter, it is unclear how the loop shape of the McEowen lanyard defines both a wide end and a narrower channel, where the channel is formed to hold a portion of clothing by an interference fit or friction fit. As shown in FIG. 6A of Appellant's disclosure (reproduced above), the wide end and narrower channel are distinctly different portions of the antenna aperture. The structure of the lanyard antenna 9 shown in FIG. 2 (reproduced below) of McEowen, cannot define an aperture that includes both a wide end and an adjacent channel that is narrower than the wide end. The lanyard antenna 9 defines one aperture portion that does not include a wide end and a separate, distinctive channel, i.e., a "course through which something can be directed or moved,"¹¹⁸ according to the Examiner.



In accordance with Appellant's independent claims 1, 18, 25, 27, and 29, the channel must be formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit. Thus, the channel must be formed to engage closely with the clothing to establish the interference fit or friction fit. The McEowen lanyard antenna 9 does not define such an aperture comprising a wide end and a channel that is capable of engaging closely with clothing to establish interference fit or friction fit. McEowen discloses that an "antenna conductive element is embedded within, runs alongside, or is woven into a flexible strength

¹¹⁷ Final Office Action mailed June 13, 2008, page 5, line 20 to page 6, line 2.

¹¹⁸ *Id.* at page 7, lines 1-2.

member” to form a lanyard antenna.¹¹⁹ Thus, the lanyard antenna 9 is flexible. McEowen clearly and repeatedly describes the lanyard antenna as being formed from a flexible material. Given its flexible nature, the McEowen antenna would not provide enough rigidity to engage with clothing to generate a sufficient interference fit or friction fit with clothing to substantially hold the antenna in place.

McEowen discloses that this flexible antenna may be attached to a person’s clothing by looping the lanyard around a person’s belt or affixing it with a clip.¹²⁰ These two attachment techniques do not contemplate an interference or friction fit between a narrow channel defined by the antenna and clothing, as required by Appellant’s independent claims.

Neither Cimochoowski nor McEowen discloses or suggests an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end, or that the antenna holds a portion of an item of clothing by an interference fit or friction fit and thereby holds the antenna in a substantially fixed position relative to an implantable medical device. Hence, Cimochoowski in view of McEowen fails to teach or suggest each and every requirement recited in Appellant’s independent claims 1, 18, 25, 27, and 29.

The Examiner failed to provide a rational reason for the proposed modification to Cimochoowski. The Examiner stated that McEowen discloses the lanyard antenna “in order to attach a communications device to the clothing of a user with additional security against dropping the device and to provide an improved antenna.”¹²¹ The Examiner then reasoned that one having ordinary skill in the art would have modified Cimochoowski in view of McEowen in order to provide the Cimochoowski system with “the same advantages of holding an antenna in a substantially fixed position.”¹²² This rationale for modifying Cimochoowski in view of McEowen, however, appears to overlook the fact that Cimochoowski already discloses a coil that encompasses a portion of a patient’s body to remain in a substantially fixed position.¹²³ In addition, the cited art fails to establish that the McEowen lanyard antenna provides advantages over the Cimochoowski coil. For at least these reasons, the Examiner’s proposed rationale for

¹¹⁹ McEowen, Abstract.

¹²⁰ *Id.* at column 3, lines 62–65.

¹²¹ Final Office Action mailed June 13, 2008, page 6.

¹²² *Id.*

¹²³ Cimochoowski, column 16, lines 12–16 and FIG. 12.

modifying Cimochoowski in view of McEowen is insufficient to establish a *prima facie* case of obviousness.

Moreover, modifying the Cimochoowski external coil to include the lanyard antenna, as proposed by the Examiner, would appear to undermine the principles of operation of the Cimochoowski device. As described above, the Cimochoowski reference discloses that the external coil antenna with an aperture sized to encompass a portion of the body of a patient is designed for a particular purpose, e.g., to properly communicate with an implanted stent. It is unclear whether the lanyard antenna described by McEowen is configured to communicate with the implanted stent in the same manner as the Cimochoowski external coil.

For at least these reasons, the rejection of independent claims 1, 18, 25, 27, and 29 under 35 U.S.C. § 103(a) over Cimochoowski in view of McEowen is improper and should be reversed. Claims 2–6, 8, and 16 depend from claim 1, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 2–6, 8, 16, 19–22, 24, and 26 is also improper. Appellant respectfully requests reversal of the rejection of claims 1–8, 16, 18–27, and 29–35 under 35 U.S.C. § 103(a) based of Cimochoowski in view of McEowen.

CLAIMS 7 AND 23

Dependent claims 7 and 23 recite that the aperture defined by the antenna of claims 1 and 18, respectively, is tapered. In support of the rejection of claims 7 and 23 being unpatentable over Cimochoowski in view of McEowen, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”¹²⁴ Further, the Examiner stated that teardrops may be circular in shape, and Cimochoowski discloses a circular antenna coil.¹²⁵ However, Appellant’s claims 7 and 23 do not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Cimochoowski or McEowen in support of the rejection of claims 7 and 23. Accordingly, the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness of claims 7 and 23. The rejection is therefore improper and should be reversed.

¹²⁴ Final Office Action mailed June 13, 2008, page 6, line 22 to page 7, line 1.

¹²⁵ *Id.* at page 7, lines 1–2.

Neither Cimochoowski nor McEowen discloses or suggests an antenna defining an aperture comprising a tapered channel, as required by claims 7 and 23. As the Examiner pointed out, Cimochoowski discloses a circular antenna coil, which is not tapered. Further, as described above with respect to the independent claims, McEowen does not even disclose or suggest an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Hence, McEowen cannot disclose or suggest that the channel is tapered, as recited by Appellant's claims 7 and 23. As a result, Cimochoowski in view of McEowen fails to disclose or suggest the requirements of Appellant's claims 7 and 23. For at least these reasons, the rejection of claims 7 and 23 is improper and should be reversed.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape. While the Examiner rejected claims 30, 31, 33, and 34 in view of Cimochoowski in view of McEowen, the Examiner did not sufficiently address the limitations of claims 30, 31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Cimochoowski in view of McEowen discloses each and every element of claims 30, 31, 33, and 34.

Cimochoowski in view of McEowen fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a narrower channel adjacent the wide end, as required by claims 30 and 33. As noted above, the Examiner acknowledged that Cimochoowski fails to disclose such an antenna.¹²⁶ In addition, McEowen fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end. Even if the lanyard antenna disclosed by McEowen defines an aperture comprising a wide end and a narrower channel adjacent the wide end, an assertion with which Appellant disagrees, McEowen fails to disclose or suggest that the lanyard antenna comprises a housing defining an aperture and an antenna loop disposed within the housing. Thus, even if Cimochoowski was modified in view of McEowen, the resulting antenna would not

¹²⁶ Final Office Action mailed June 13, 2008, page 3, lines 1-3.

include an antenna comprising a housing defining an aperture comprising a wide end and a narrower channel adjacent the wide end and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Cimochoowski in view of McEowen, and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Cimochoowski in view of McEowen fails to disclose or suggest the antenna of Appellant's claims 32 and 35. In support of the rejection of claims 32 and 35, the Examiner stated that Cimochoowski "discloses plastic materials" and that "molded plastic housings are well known in the biomedical art."¹²⁷ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified Cimochoowski in view of McEowen to include an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Cimochoowski was modified in view of McEowen, the resulting device would not meet the limitations of Appellant's claims 32 and 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. As described above, Cimochoowski only refers to a flexible piezoelectric plastic material for a ultrasonic transducer array¹²⁸ and fails to disclose or suggest an antenna comprising a housing that is formed at least in part from plastic. McEowen fails to disclose or suggest that the lanyard antenna described therein comprises a housing formed at least in part from plastic. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant's claimed antenna based on Cimochoowski and McEowen.

For at least these reasons, claims 32 and 35 are patentable over Cimochoowski in view of McEowen, and the rejection of claims 32 and 35 should be reversed.

¹²⁷ Final Office Action mailed June 13, 2008, page 7.

¹²⁸ Cimochoowski at column 16, lines 59–60.

FOURTH GROUND OF REJECTION UNDER APPEAL

Claims 9, 11–23, 25, 26, 28, 29, and 33–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of Lippert.

CLAIMS 9, 11–22, 25, 26, 28, 29, 33, AND 34

In support of the rejection of claims 9, 11–23, 25, 26, 28, 29, and 33–35 under 35 U.S.C. § 103(a) based on Pool in view of Lippert, the Examiner stated that Pool discloses an antenna housed within a belt, and that the belt inherently possesses the ability to have clothing pulled through the channel created by buckling the belt, thereby holding the antenna in a substantially fixed position relative to the implanted device.¹²⁹ Appellant disagrees that buckling a belt constitutes pulling clothing through a channel created by buckling the belt. Furthermore, a belt does not define an aperture comprising a wide end and a narrower channel formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit.

The Examiner recognized that Pool does not disclose an antenna defining an aperture comprising a wide end and a channel adjacent the wide end¹³⁰ and characterized Lippert as disclosing such an antenna. As discussed above with respect to the second ground of rejection under appeal, Lippert does not disclose or suggest an antenna that comprises a wide end and narrower channel that formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit. Accordingly, even if Pool was modified in view of Lippert, the result would not include each and every element of Appellant's claims. For example, neither Pool nor Lippert discloses a method that comprises pulling at least some of a portion of an item of clothing into a channel in an antenna to thereby hold the antenna in a substantially fixed position relative to an implanted medical device, as recited by Appellant's independent claims 9 and 28.

As another example, modifying the belt disclosed by Pool to include the loop 9 disclosed by Lippert would not result in an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end, as required by Appellant's claims. Instead, the resulting device would include the belt disclosed by Pool and a loop 9 separate from the belt, where the loop 9 is used to attach the belt to an aperture in clothing of a user. In this proposed

¹²⁹ Final Office Action mailed June 13, 2008, page 8, lines 4–11.

¹³⁰ *Id.*

modification, the Lippert loop 9 appears to be redundant and unnecessary for use with the belt disclosed by Pool. Neither Cimoichowski nor Lippert discloses or suggests modifying the shape of the belt disclosed by Pool in the manner proposed by the Examiner.

Moreover, for similar reasons discussed above with respect to the lack of an apparent reason to modify Cimoichowski in view of Lippert, it is unclear why one having ordinary skill in the art would have looked to Lippert to modify Pool. Pool relates to a wearable telemetry arrangement for use with a medical information communications device¹³¹, whereas Lippert relates to an identity card¹³². The fact that Lippert may teach a loop to fasten an identity card to an eye of a zip fastener slide on clothing of a person does not provide any rational reason to prompt a person having ordinary skill in the art to combine the specific teachings of Lippert with the belt disclosed by Pool in order to arrive at an antenna that defines an aperture comprising a wide end and an adjacent, narrower channel formed to hold a portion of an item of clothing.

It is impermissible for the Examiner to establish obviousness by demonstrating that each of the elements was independently known. Other than the vague reference to the “same problems solving area,” the Examiner has not identified an apparent reason why one of ordinary skill in the art would have been motivated to make a modification to Pool or to combine Pool with Lippert in order to arrive at Appellant’s claimed invention. Indeed, it appears that one having ordinary skill in the art would not have had a rational reason to modify the belt disclosed by Pool to include the loop 9 disclosed by Lippert. Pool discloses a belt, which is worn by a patient, that includes an antenna band. Thus, there is no apparent need for another attachment loop 9 to attach the belt disclosed by Pool. Modifying the belt to include the loop 9 disclosed by Lippert in order to attach the belt to a person with the loop 9 would appear to undermine the very purpose of the belt disclosed by Pool. Neither Pool nor Lippert discloses or suggests that an additional loop 9 on the belt disclosed by Pool would provide any beneficial results.

For at least these reasons, the rejection of independent claims 9, 18, 25, 28, and 29 under 35 U.S.C. § 103(a) over Pool in view of Lippert is improper. Claims 11–17, 33, and 34 depend from claim 9, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 12–14, 17, 19–24, and 26 was also improper.

¹³¹ Pool, Abstract.

¹³² Lippert, Abstract.

Appellant respectfully requests reversal of the rejection of 9, 11–22, 25, 26, 28, 29, 33, and 34 under 35 U.S.C. § 103(a) based of Pool in view of Lippert.

CLAIM 23

Dependent claim 23 recites that the aperture defined by the antenna of independent claim 18 is tapered. In support of the rejection of claim 23 as being obvious over Pool in view of Lippert, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”¹³³ Further, the Examiner stated that teardrops may be circular in shape, and Pool discloses a circular belt like housing.¹³⁴ As an initial matter, Appellant notes that claim 23 does not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Pool or Lippert in support of the rejection of claim 23. Accordingly, the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness of claim 23. The rejection of claim 23 is therefore improper and should be reversed.

CLAIM 35

Claim 35 specifies that the antenna of independent claim 9 comprises a housing formed at least in part from plastic that is molded to define the aperture, and an antenna loop disposed within the housing. With respect to the rejection of claim 35 as being nonpatentable over Pool in view of Lippert, the Examiner stated that, “molded plastic housings are well known in the art.”¹³⁵ This statement, however, does not provide any apparent reason for modifying Pool in view of Lippert to include the antenna recited in Appellant’s claim 35. Claim 35 is not directed toward any molded plastic housing, but is specifically directed to a housing that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Neither Lippert nor Pool discloses or suggests a housing. Furthermore, neither Pool nor Lippert discloses or suggests placing an antenna loop within such a housing, as further require by claim 35.

¹³³ Final Office Action mailed June 13, 2008, page 11.

¹³⁴ *Id.* at page 11, lines 17–18.

¹³⁵ *Id.* at page 11.

Pool describes a belt that houses an antenna band.¹³⁶ Pool does not disclose or suggest that the belt may be formed at least in part from plastic that is molded to define an aperture. Furthermore, Pool fails to describe where the antenna band is located relative to the belt. Similarly, Lippert fails to disclose that the loop 9 may be formed at least in part from plastic that is molded to define an aperture. Moreover, Lippert fails to describe an antenna comprising a housing and an antenna loop disposed within the housing, as required by claim 35. Instead, in the Lippert reference, the antenna 6 is separate from the loop 9 and is not disposed within the loop 9. Thus, it is unclear how one having ordinary skill in the art would have modified Pool in view of Lippert to arrive at an antenna comprising an antenna housing formed at least in part from plastic that is molded to define the aperture, and an antenna loop disposed within the housing, as required by claim 35. For at least these reasons, the rejection of claim 35 is improper and should be reversed.

FIFTH GROUND OF REJECTION UNDER APPEAL

Claims 9, 11–23, 25, 26, 28, 29, and 33–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of Wallerstorf.

CLAIMS 9, 11–22, 25, 26, 28, 29, 33, AND 34

As discussed above with respect to the fourth ground of rejection under appeal, Pool fails to disclose an antenna defining an aperture comprising a wide end and a channel adjacent the wide end. Appellant established above with respect to the first ground of rejection under appeal, Wallerstorf fails to cure this fundamental deficiency in the Pool reference. In particular, Wallerstorf discloses a fastening element 30 for a data carrier tag, where the tag may include an antenna that is separate from the fastening element 30. Wallerstorf does not contemplate integration of the fastening element 30 with an antenna itself. Appellant also established above with respect to the first ground of rejection under appeal that Wallerstorf does not disclose or suggest an antenna that comprises a wide end and narrower channel that formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit. Accordingly,

¹³⁶ Pool, column 8, lines 34–36.

even if Pool were combined with Wallerstorfer, the resulting device would not include each and every element of Appellant's claims.

One having ordinary skill in the art would not have had a rational reason to modify Pool in view of Lippert in the manner proposed by the Examiner. Pool describes a belt including an antenna, where the belt is worn by a patient. Thus, modifying the belt to include an additional fastening element 30 disclosed by Wallerstorfer would appear to undermine the very purpose of the belt disclosed by Pool. Neither Pool nor Wallerstorfer discloses or suggests that an additional fastening element 30 on the belt disclosed by Pool would provide any beneficial results.

Moreover, it is unclear why one having ordinary skill in the art would have looked to Wallerstorfer to modify Pool. Pool relates to a wearable telemetry arrangement for use with a medical information communications device¹³⁷, whereas Wallerstorfer is directed toward a data carrier structure¹³⁸. The fact that Wallerstorfer may disclose a fastening element for fixing a data carrier structure to clothing of a holder does not provide a motivation to combine the specific teachings of Wallerstorfer with Pool in order to arrive at an antenna that defines an aperture comprising a wide end and an adjacent, narrower channel formed to hold a portion of an item of clothing.

It is impermissible for the Examiner to establish obviousness by demonstrating that each of the elements was independently known. Other than the vague reference to the "same problems solving area," the Examiner has not identified an apparent reason why one of ordinary skill in the art would have been motivated to make a modification to Pool or to combine Pool with Wallerstorfer in order to arrive at Appellant's claimed invention.

For at least these reasons, the rejection of claims 9, 18, 25, 28, and 29 under 35 U.S.C. § 103(a) over Pool in view of Wallerstorfer is improper. Claims 11–17, 33, and 34 depend from claim 9, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 12–14, 17, 19–24, and 26 was also improper. Appellant respectfully requests reversal of the rejection of 9, 11–22, 25, 26, 28, 29, 33, and 34 under 35 U.S.C. § 103(a) based of Pool in view of Lippert.

¹³⁷ Pool, Abstract.

¹³⁸ Wallerstorfer, column 3, lines 64–67.

CLAIM 23

Dependent claim 23 recites that the aperture defined by an antenna is tapered. In support of the rejection of claim 23, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”¹³⁹ Further, the Examiner stated that teardrops may be circular in shape, and Pool discloses a circular belt like housing.¹⁴⁰ This reasoning provided by the Examiner, however, overlooks the fact that Appellant’s claim 23 does not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Pool or Wallerstorfer in support of the rejection of claim 23. The rejection is therefore improper and should be reversed.

Neither Pool nor Wallerstorfer discloses or suggests a tapered channel. As the Examiner pointed out, Pool discloses a circular belt like housing, which is not tapered. Further, as described above with respect to the independent claims, Wallerstorfer does not even disclose or suggest an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Hence, Wallerstorfer cannot disclose or suggest that the channel is tapered, as recited by Appellant’s claim 23. As a result, Pool in view of Wallerstorfer fails to disclose or suggest the requirements of Appellant’s claim 23. For at least these reasons, the rejection of claim 23 is improper and should be reversed.

CLAIM 35

Claim 35 specifies that the antenna of independent claim 9 comprises a housing formed at least in part from plastic that is molded to define the aperture, and an antenna loop disposed within the housing. With respect to the rejection of claim 35 as being nonpatentable over Pool in view of Wallerstorfer, the Examiner stated that, “molded plastic housings are well known in the art.”¹⁴¹ This statement, however, does not provide any apparent reason for modifying Pool in view of Wallerstorfer to include the antenna recited in Appellant’s claim 35. Neither Pool nor Lippert discloses or suggests a housing that defines an aperture comprising a wide end and a narrower channel adjacent the wide end, as required by claim 35. Furthermore, neither Lippert

¹³⁹ Final Office Action mailed June 13, 2008, page 11, lines 15–17.

¹⁴⁰ *Id.* at page 11, lines 17–18.

¹⁴¹ *Id.* at page 11.

nor Pool discloses or suggests a housing placing an antenna loop within such a housing, as further required by claim 35.

As described above, Pool describes a belt that houses an antenna band,¹⁴² but fails to disclose or suggest that the belt may be formed at least in part from plastic that is molded to define an aperture. Wallerstorfer fails to disclose that the fastening element 30 may be formed at least in part from plastic that is molded to define an aperture. Moreover, Wallerstorfer fails to disclose or suggest that an antenna loop is disposed within the fastening element. Instead, Wallerstorfer appears to describe a device in which an antenna 16 is separate from the fastening element 30 and is not disposed within the fastening element 30. Thus, it is unclear how one having ordinary skill in the art would have modified Pool in view of Wallerstorfer to arrive at an antenna comprising a housing formed at least in part from plastic that is molded to define the aperture, and an antenna loop disposed within the housing, as required by claim 35.

For at least these reasons, the rejection of claim 35 is improper and should be reversed.

SIXTH GROUND OF REJECTION UNDER APPEAL

Claims 9, 11–23, 25, 26, 28, 29, and 33–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pool in view of McEowen.

CLAIMS 9, 11–22, 25, 26, 28, 29, 33, AND 34

Claims 9, 11–23, 25, 26, 28, 29, and 33–35 stand rejected under 35 U.S.C. § 103(a) based on Pool in view of McEowen. However, Pool in view of McEowen fails to disclose each and every element of Appellant's claims 9, 11–23, 25, 26, 28, 29, and 33–35. For example, as described above with respect to the third and fourth grounds of rejection under appeal, neither Pool nor McEowen discloses or suggests an antenna defining an aperture comprising a wide end and a channel adjacent the wide end.

The Examiner failed to provide a rational reason one having ordinary skill in the art would have been prompted to modify Pool in view of McEowen. The Examiner stated that McEowen discloses the lanyard antenna “in order to attach a communications device to the clothing of a user with additional security against dropping the device and to provide an

¹⁴² Pool, column 8 lines 34–36.

improved antenna.”¹⁴³ The Examiner then reasoned that one having ordinary skill in the art would have modified Pool in view of McEowen in order to provide the Pool system with “the same advantages of holding an antenna in a substantially fixed position.”¹⁴⁴ However, Pool already discloses a technique for holding antenna to a patient. In particular, Pool discloses a wearable belt that includes an antenna member that is adapted to establish a communication link with a patient’s implanted device.¹⁴⁵ The cited art fails to establish that the McEowen lanyard antenna provides advantages over the Pool belt. It is unclear what beneficial result would have been expected or why a person having ordinary skill in the art would have modified Pool in the manner proposed by the Examiner. Thus, the Examiner’s proposed rationale for modifying Pool in view of McEowen is insufficient to establish a *prima facie* case of obviousness.

For at least these reasons, the rejection of independent claims 9, 18, 25, 28, and 29 under 35 U.S.C. § 103(a) over Pool in view of McEowen is improper and must be reversed. Claims 11–17, 33, and 34 depend from claim 9, claims 19–22 and 24 depend from claim 18, and claim 26 depends from claim 25. For at least this reason, the rejection of claims 12–14, 17, 19–24, and 26 was also improper. Appellant respectfully requests reversal of the rejection of 9, 11–22, 25, 26, 28, 29, 33, and 34

CLAIM 23

Dependent claim 23 recites that the aperture defined by the antenna of independent claim 19 is tapered. In support of the rejection of claim 23, the Examiner stated that a teardrop shape “is quite broad considering the fact that a teardrop can be a multitude of shapes considering its environment.”¹⁴⁶ Further, the Examiner stated that teardrops may be circular in shape, and Pool discloses a circular belt like housing.¹⁴⁷ As discussed above, Appellant’s claim 23 does not recite a teardrop shape. The Examiner has failed to point to any teaching of a tapered channel in Pool or McEowen in support of the rejection of claim 23, and, therefore, failed to establish a *prima facie* case of obviousness. The rejection is therefore improper and should be reversed.

¹⁴³ Final Office Action mailed June 13, 2008, pages 8 and 9.

¹⁴⁴ *Id.* at page 9.

¹⁴⁵ Pool, column 8, lines 25–35.

¹⁴⁶ Final Office Action mailed June 13, 2008, page 11, lines 15–17.

¹⁴⁷ *Id.* at page 11, lines 17–18.

Neither Pool nor McEowen discloses or suggests a tapered channel. As the Examiner pointed out, Pool discloses a circular belt like housing, which is not tapered. Further, as described above with respect to the independent claims, McEowen does not even disclose or suggest an antenna that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. Hence, McEowen cannot disclose or suggest that the channel is tapered, as recited by Appellant's claim 23. As a result, Pool in view of McEowen fails to disclose or suggest the requirements of Appellant's claim 23. For at least these reasons, the rejection of claim 23 is improper and should be reversed.

CLAIM 35

Claim 35 specifies that the antenna of independent claim 9 comprises a housing formed at least in part from plastic that is molded to define the aperture, and an antenna loop disposed within the housing. With respect to the rejection of claim 35 as being nonpatentable over Pool in view of McEowen, the Examiner stated that, "molded plastic housings are well known in the art."¹⁴⁸ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified the belt disclosed by Pool in view of the lanyard antenna disclosed by McEowen and in further view of the asserted knowledge of molded plastic housings.

Even if the belt disclosed by Pool was modified in view of McEowen, the resulting device would not meet the limitations of Appellant's claim 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. As described above, Pool fails to disclose or suggest an antenna comprising a housing that is formed at least in part from plastic. McEowen fails to disclose or suggest that the lanyard antenna described therein comprises a housing formed at least in part from plastic. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant's claimed antenna based on Cimochoowski and McEowen.

For at least these reasons, claim 35 is patentable over Pool in view of McEowen and the rejection of claim 35 should be reversed.

¹⁴⁸Final Office Action mailed June 13, 2008, page 11.

SEVENTH GROUND OF REJECTION UNDER APPEAL

Claims 1–9 and 11–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of Lippert.

CLAIMS 1–9 AND 11–29

In support of the rejection of claims 1–9 and 11–35 under 35 U.S.C. § 103(a) based on Taepke in view of Lippert, the Examiner stated that Taepke discloses an antenna for medical devices, where the antenna defines an aperture and is formed to hold a portion of an item of clothing associated with the patient.¹⁴⁹ Appellant respectfully disagrees with the characterization given to the Taepke antenna 22. Taepke merely states that the antenna 22 may be attached to the patient's clothing.¹⁵⁰ Taepke does not disclose that the antenna necessarily attaches to the patient's clothing by holding a portion of the clothing, as required by Appellant's independent claims. It is unclear from the figures and description in Taepke whether the antenna 22 even defines an aperture, much less an aperture that is formed to hold a portion of an item of clothing by an interference fit or friction fit, as required by Appellant's independent claims 1, 9, 18, 25, and 27–29.

The Examiner recognized that Taepke fails to disclose each and every element of Appellant's independent claims, namely, an antenna defining an aperture that comprises a wide end and a narrow channel adjacent the wide end, and asserted Lippert discloses such an antenna.¹⁵¹ However, even if Taepke was modified in view of Lippert, the resulting antenna would not include an aperture comprising a wide end and a channel adjacent the wide end, as required by Appellant's independent claims. Instead, the resulting antenna would appear to include the antenna 22 disclosed by Taepke with a separate connecting element disclosed by Lippert.

As discussed above with respect to the second ground of rejection under appeal, Lippert fails to disclose or suggest an antenna that defines an aperture comprising a wide end and a channel adjacent the wide end, where the channel is narrower than the wide end, and where the channel formed to hold a portion of clothing by interference fit or friction fit, as recited by

¹⁴⁹ Final Office Action mailed June 13, 2008, page 12, lines 1–9.

¹⁵⁰ Taepke, column 5, lines 6–8.

¹⁵¹ Final Office Action mailed June 13, 2008, page 12, lines 10–19.

Appellant's claims. Instead, Lippert merely discloses an identity card that may be secured to a zipper on clothing of a person with the aid of a connecting element, such as a loop 9.¹⁵² The connecting element is separate from the antenna in the Lippert device.¹⁵³

Indeed, Lippert discloses that its device has a separate loop and antenna for a specific purpose. In particular, Lippert states that the loop 9 that is separate from an antenna such that if an attempt is made to pull at the end of the loop, the antenna, which is bonded to the end of the loop, will be destroyed.¹⁵⁴ Lippert does not provide any disclosure relating to an antenna that defines an aperture. Accordingly, even if Taepke was modified in view of Lippert, the resulting antenna would not include each and every element of Appellant's independent claims.

It is unclear why one having ordinary skill in the art would have looked to Lippert to modify Taepke. The Examiner asserted that Taepke and Lippert are in the "same problem solving area." Appellant respectfully disagrees. Taepke relates to a universal adaptor between an implantable medical device and a hospital monitoring system,¹⁵⁵ whereas Lippert relates to an identity card¹⁵⁶. The fact that Lippert may disclose a loop to fasten the indicator apparatus having a separate antenna to clothing of a person does not provide a rational reason to combine the specific teachings of Lippert with Taepke in order to arrive at an antenna that defines an aperture comprising a wide end and an adjacent, narrower channel formed to hold a portion of an item of clothing.

For at least these reasons, the rejection of claims 1–9 and 11–29 under 35 U.S.C. § 103(a) over Taepke in view of Lippert is improper and should be reversed.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of independent claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape. While the Examiner rejected claims 30, 31, 33, and 34 in view of Taepke in view of Lippert, the Examiner did not sufficiently address the limitations of claims 30,

¹⁵² Lippert, column 1, lines 41–46 and column 4, lines 15–17.

¹⁵³ *Id.* at column 4, lines 18–26 and FIG. 3, which illustrates a loop 9 that is separate from an antenna 6.

¹⁵⁴ *Id.* at column 2, lines 4–9.

¹⁵⁵ Taepke, Abstract.

¹⁵⁶ Lippert, Abstract.

31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Taepke in view of Lippert discloses each and every element of claims 30, 31, 33, and 34.

Taepke in view of Lippert fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a channel adjacent the wide end, where the channel is narrower than the wide end, as required by claims 30 and 33. As noted above, the Examiner acknowledged that Taepke fails to disclose such an antenna.¹⁵⁷ In addition, Lippert fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end. The Examiner asserted that the identity card disclosed by Lippert, which includes an antenna 6 attached to a section 4 and a loop 9 attached to the section 4, discloses an antenna comprising a wide end and a narrower channel adjacent the wide end.¹⁵⁸ The Lippert identity card, however, does not include a housing defining an aperture, and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

Even if the loop 9 disclosed by Lippert defines an aperture comprising a wide end and a narrower channel adjacent the wide end, an assertion with which Appellant disagrees, the antenna 6 is not disposed within the loop 9. The structure of the Lippert identity card is shown in FIG. 3 of Lippert (reproduced above). Thus, even if Taepke was modified in view of Lippert, the resulting antenna would not include an antenna comprising a housing defining an aperture comprising a wide end and a narrower channel adjacent the wide end and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Taepke in view of Lippert, and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Taepke in view of Lippert fails to disclose or suggest the antenna of Appellant's claims 32 and 35. In support of the rejection of claims 32 and 35, the Examiner stated that "molded plastic is a well known means of

¹⁵⁷ Final Office Action dated June 13, 2008, page 12, lines 10–19.

¹⁵⁸ *Id.* at page 5.

manufacturing device housings, specifically antenna heads.”¹⁵⁹ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified Taepke in view of Lippert to include an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Taepke was modified in view of Lippert, the resulting device would not include each and every element of Appellant’s claims 32 and 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. Taepke discloses a lightweight rubber antenna, and fails to disclose or suggest an antenna comprising a housing formed at least in part of a plastic.¹⁶⁰ In addition, Lippert does not disclose or suggest that the loop 9 comprises a housing formed at in least in part of plastic. Moreover, Lippert fails to disclose or suggest that the loop 9 comprises a housing and an antenna loop disposed within the housing, as required by claims 30 and 33, from which claims 32 and 35 depend. Instead, in the Lippert reference, the antenna 6 is separate from the loop 9. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant’s claimed antenna based on Taepke and Lippert.

For at least these reasons, claims 32 and 35 are patentable over Taepke in view of Lippert, and the rejection of claims 32 and 35 should be reversed.

EIGHTH GROUND OF REJECTION UNDER APPEAL

Claims 1–9 and 11–35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of Wallerstorfer.

CLAIMS 1–9 AND 11–29

As discussed above, Taepke does not disclose or suggest an antenna that defines an aperture. The Examiner recognized that Taepke fails to disclose each and every element of Appellant’s independent claims, namely, an antenna defining an aperture that comprises a wide end and a narrow channel adjacent the wide end, and cited Wallerstorfer as disclosing such an

¹⁵⁹ Final Office Action dated June 13, 2008, page 13.

¹⁶⁰ Taepke, column 5, lines 7–9.

antenna.¹⁶¹ However, as discussed above with respect to the first ground of rejection under appeal, Wallerstorfer fails to disclose or suggest an antenna that defines an aperture comprising a wide end and a channel adjacent the wide end, where the channel is narrower than the wide end, and where the channel formed to hold a portion of clothing by interference fit or friction fit.

Even if Taepke was modified in view of Wallerstorfer, the resulting antenna would not include each and every element of Appellant's claims. Wallerstorfer merely describes a fastening element 30 for hanging a data carrier (e.g., for use on ski lifts or parking garages¹⁶²) on clothing, whereby the fastening element 30 is separate from any antenna of the data carrier. Moreover, the fastening element 30 disclosed by Wallerstorfer does not define an aperture comprising a channel adjacent a wide end.¹⁶³ Accordingly, modifying the antenna disclosed by Taepke in view of the fastening element 30 disclosed by Wallerstorfer would appear to result in a device in which an antenna included a separate fastening element 30, rather than an antenna having a specific shape. The cited art fails to provide any basis for modifying the shape of the Taepke antenna in view of Wallerstorfer.

The Examiner failed to identify an articulated reason with a rational underpinning to support the conclusion of obviousness. Taepke relates to a universal adaptor between an implantable medical device and a hospital monitoring system,¹⁶⁴ whereas Wallerstorfer is directed toward a data carrier structure¹⁶⁵. Taepke and Wallerstorfer are not in the same problem solving area, as asserted by the Examiner. The fact that Wallerstorfer may disclose a fastening element for fixing a data carrier structure to clothing of a holder does not provide a reason to combine the specific teachings of Wallerstorfer with Taepke in order to arrive at an antenna that defines an aperture comprising a wide end and an adjacent, narrower channel formed to hold a portion of an item of clothing.

For at least these reasons, the rejection of claims 1–9 and 11–29 under 35 U.S.C. § 103(a) over Taepke in view of Wallerstorfer is improper and should be reversed.

¹⁶¹ Final Office Action dated June 13, 2008, page 12, lines 10–19.

¹⁶² Wallerstorfer, column 1, lines 17–20.

¹⁶³ *Id.* at column 5, lines 34–35 and 58–61.

¹⁶⁴ Taepke, Abstract.

¹⁶⁵ Wallerstorfer, column 3, lines 64–67.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of independent claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape. While the Examiner rejected claims 30, 31, 33, and 34 in view of Taepke in view of Wallerstorf, the Examiner did not sufficiently address the limitations of claims 30, 31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Taepke in view of Wallerstorf discloses each and every element of claims 30, 31, 33, and 34.

Taepke in view of Wallerstorf fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a narrower channel adjacent the wide end. As noted above, the Examiner acknowledged that Taepke fails to disclose such an antenna.¹⁶⁶ In addition, Wallerstorf fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end. The Examiner asserted that the fastening element 30 disclosed by Wallerstorf is an “antenna tag”¹⁶⁷ that defines an aperture. However, the fastening element 30 disclosed by Wallerstorf is separate from the antenna 16 of the data carrier device. In contrast, claims 30 and 33 require an antenna that comprises a housing defining the aperture and an antenna loop disposed within the housing.

Even if the fastening element 30 disclosed by Wallerstorf defines an aperture in accordance with Appellant’s independent claims 1 and 9 as asserted by the Examiner, an assertion with which Appellant disagrees, the fastening element 30 does not comprise a housing and an antenna loop disposed within the housing. While Wallerstorf discloses an antenna 16, Wallerstorf fails to disclose or suggest that the antenna 16 is disposed within the fastening element 30. In fact, FIG. 2 of Wallerstorf illustrates the antenna 16 being separate from any fastening element. Thus, the fastening element 30 disclosed by Wallerstorf fails to meet the limitations of Appellant’s claims 30 and 33.

¹⁶⁶ Final Office Action dated June 13, 2008, page 12, lines 10–19.

¹⁶⁷ *Id.* at page 5.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Taepke in view of Wallerstorfer, and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Taepke in view of Wallerstorfer fails to disclose or suggest the antenna of Appellant's claims 32 and 35. In support of the rejection of claims 32 and 35, the Examiner stated that "molded plastic is a well known means of manufacturing device housings, specifically antenna heads."¹⁶⁸ This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified Taepke in view of Wallerstorfer to include an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Taepke was modified in view of Wallerstorfer, each and every element of Appellant's claims 32 and 35 would not be disclosed or suggested. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. As discussed above, Taepke fails to describe an antenna comprising a housing formed at least in part of plastic. In addition, the fastening element 30 disclosed by Wallerstorfer does not comprise a housing and an antenna loop disposed within the housing, as required by claims 30 and 33, from which claims 32 and 35 depend. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant's claimed antenna based on Taepke and Wallerstorfer.

For at least these reasons, claims 32 and 35 are patentable over Taepke in view of Wallerstorfer, and the rejection of claims 32 and 35 should be reversed.

NINTH GROUND OF REJECTION UNDER APPEAL

Claims 1-9 and 11-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taepke in view of McEowen.

¹⁶⁸Final Office Action dated June 13, 2008, page 13.

CLAIMS 1-9 AND 11-29

As discussed above, Taepke does not disclose or suggest an antenna that defines an aperture. The Examiner recognized that Taepke fails to disclose each and every element of Appellant's independent claims, namely, an antenna defining an aperture that comprises a wide end and a narrow channel adjacent the wide end, and cited McEowen as disclosing such an antenna.¹⁶⁹ However, the modification of Taepke in view of McEowen proposed by the Examiner fails to disclose or suggest each and every element of Appellant's claims.

For example, as discussed above with respect to the third ground of rejection under appeal, McEowen fails to disclose or suggest an antenna that defines an aperture comprising a wide end and a channel adjacent the wide end, where the channel is narrower than the wide end, and where the channel formed to hold a portion of clothing by interference fit or friction fit. Instead, McEowen discloses a lanyard antenna that defines one aperture portion that does not include a wide end and a separate, distinctive channel. Moreover, the flexible antenna disclosed by McEowen is not configured to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit as required by Appellant's claims.

The Examiner also failed to establish a rational reason why one having ordinary skill in the art would have looked to McEowen to modify the Taepke antenna. The Examiner stated that it would have been obvious to modify the Taepke antenna with the "antenna aperture capable of holding an article of clothing" as disclosed by McEowen "in order to provide the Taepke '939 system with the same advantages of holding an antenna in a substantially fixed position."¹⁷⁰ However, McEowen does not disclose or even suggest that the lanyard antenna disclosed therein may be capable of holding an article of clothing. Furthermore, the cited art provides no basis for asserting that the lanyard antenna disclosed by McEowen would be better configured to being held in a substantially fixed position than the rubber antenna disclosed by Taepke.

For at least these reasons, the rejection of claims 1-9 and 11-29 under 35 U.S.C. § 103(a) over Taepke in view of McEowen is improper and should be reversed.

¹⁶⁹ Final Office Action dated June 13, 2008, page 12, lines 10-19.

¹⁷⁰ *Id.* at page 13.

CLAIMS 30, 31, 33, AND 34

Claims 30 and 33 specify that the antenna of independent claims 1 and 9, respectively, comprises a housing defining the aperture and an antenna loop disposed within the housing. Claims 31 and 34 specify that the antenna loop of claims 30 and 33, respectively, are substantially oval in shape. While the Examiner rejected claims 30, 31, 33, and 34 in view of Taepke in view of McEowen, the Examiner did not sufficiently address the limitations of claims 30, 31, 33, and 34 as they relate to the cited references. The rejection of claims 30, 31, 33, and 34 should be reversed because the Examiner has failed to meet the burden of illustrating how Taepke in view of McEowen discloses each and every element of claims 30, 31, 33, and 34.

Taepke in view of McEowen fails to disclose or suggest an antenna that comprises a housing that defines an aperture comprising a wide end and a channel adjacent the wide end, wherein the channel is narrower than the wide end, as required by claims 30 and 33. As noted above, the Examiner acknowledged that Taepke fails to disclose such an antenna.¹⁷¹ McEowen also fails to disclose or suggest an antenna that includes a housing that defines an aperture comprising a wide end and a channel adjacent the wide end. Even if the lanyard antenna disclosed by McEowen defines an aperture comprising a wide end and a narrower channel adjacent the wide end, an assertion with which Appellant disagrees, McEowen fails to disclose or suggest that the lanyard antenna comprises a housing defining an aperture and an antenna loop disposed within a housing. Thus, even if Cimochowski was modified in view of McEowen, the resulting antenna would not include an antenna comprising a housing defining an aperture comprising a wide end and a narrower channel adjacent the wide end and an antenna loop disposed within the housing, as required by Appellant's claims 30 and 33.

For at least these reasons, claims 30, 31, 33, and 34 are patentable over Taepke in view of McEowen, and the rejection of claims 30, 31, 33, and 34 should be reversed.

CLAIMS 32 AND 35

Claims 32 and 35 specify that the housing of claims 30 and 33, respectively, is formed at least in part from plastic that is molded to define the aperture. Taepke in view of McEowen fails to disclose or suggest the antenna of Appellant's claims 32 and 35. In support of the rejection of

¹⁷¹ Final Office Action dated June 13, 2008, page 12, lines 10–19.

claims 32 and 35, the Examiner stated that “molded plastic is a well known means of manufacturing device housings, specifically antenna heads.”¹⁷² This statement, however, fails to provide a rational reason why one having ordinary skill in the art would have modified Taepke in view of McEowen to design an antenna comprising a housing formed at least in part from plastic that is molded to define an aperture that includes a wide end and a narrower channel adjacent the wide end, and an antenna loop disposed within the housing, as required by claims 32 and 35.

Even if Taepke was modified in view of McEowen, the resulting device would not meet the limitations of Appellant’s claims 32 and 35. For example, the cited references fail to disclose or suggest an antenna that comprises a housing formed at least in part of a molded plastic. Taepke discloses a lightweight rubber antenna, and fails to disclose or suggest an antenna comprising a housing formed at least in part of a plastic.¹⁷³ In addition, McEowen fails to disclose or suggest that the lanyard antenna described therein comprises a housing formed at least in part from plastic. Thus, it is unclear how one having ordinary skill in the art would have arrived at Appellant’s claimed antenna based on Taepke and McEowen.

For at least these reasons, claims 32 and 35 are patentable over Taepke in view of McEowen, and the rejection of claims 32 and 35 should be reversed.

¹⁷² Final Office Action dated June 13, 2008, page 13.

¹⁷³ Taepke, column 5, lines 7–9.

CONCLUSION OF ARGUMENT

The Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness with respect to claims 1-9 and 11-35. In view of Appellant's arguments, the final rejection of claims 1-9 and 11-35 is improper and should be reversed, and all of the pending claims should be allowed. Appellant respectfully requests separate review by the Board for each of the grounds or rejections addressed above under separate headings.

Date:

By:

December 9, 2008
SHUMAKER & SIEFFERT, P.A.
1625 Radio Drive, Suite 300
Woodbury, Minnesota 55125
Telephone: 651.286.8346
Facsimile: 651.735.1102

Jessica H. Kwak
Name: Jessica H. Kwak
Reg. No.: 58,975

CLAIMS APPENDIX

Claim 1: An antenna for a medical device programmer, wherein the antenna defines an aperture comprising a wide end and a channel adjacent the wide end, wherein the channel is narrower than the wide end and is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit and thereby hold the antenna in a substantially fixed position relative to an implantable medical device.

Claim 2: The antenna of claim 1, wherein the wide end of the aperture is sized to receive the portion of the item of clothing to enable at least some of the portion of the item of clothing to be pulled into the channel.

Claim 3: The antenna of claim 2, wherein the channel is substantially narrower than the wide end of the aperture.

Claim 4: The antenna of claim 1, further comprising a cable for connection of the antenna to the medical device programmer.

Claim 5: The antenna of claim 1, further comprising grip surfaces to grip the antenna.

Claim 6: The antenna of claim 5, wherein the grip surfaces are rubberized.

Claim 7: The antenna of claim 2, wherein the channel of the aperture is tapered.

Claim 8: The antenna of claim 1, further comprising an insulative telemetry head housing that encases the antenna.

Claim 9: A method comprising:

positioning an antenna relative to an implanted medical device, wherein the antenna defines an aperture comprising a wide end and a channel adjacent the wide end, wherein the channel is narrower than the wide end;

pulling at least some of a portion of an item of clothing into the channel in the antenna to thereby hold the antenna in a substantially fixed position relative to the implantable medical device by an interference fit or friction fit between at least a portion of the channel in the antenna and the clothing.

Claim 11: The method of claim 1, wherein the channel is substantially narrower than the wide end of the aperture.

Claim 12: The method of claim 9, wherein the antenna includes a cable, the method further comprising connecting the cable to the medical device programmer.

Claim 13: The method of claim 9, further comprising gripping grip surfaces on the antenna during positioning of the antenna.

Claim 14: The method of claim 13, wherein the grip surfaces are rubberized.

Claim 15: The method of claim 1, wherein the channel of the aperture is tapered.

Claim 16: The antenna of claim 1, wherein the medical device programmer is a neurostimulator programmer.

Claim 17: The antenna of claim 9, wherein the medical device is a neurostimulator.

Claim 18: A medical device programmer comprising:
a device housing;
telemetry circuitry mounted within the device housing;
an antenna defining an aperture comprising a wide end and a channel disposed adjacent the wide end, wherein the channel is narrower than the wide end and is formed to hold a portion of an item of clothing associated with a patient by an interference fit or friction fit and thereby hold the antenna in a substantially fixed position relative to an implantable medical device;
a cable to couple the antenna to the telemetry circuitry; and
control circuitry to control the telemetry circuitry to transmit information to the implantable medical device via the antenna, and receive information from the implantable medical device via the antenna.

Claim 19: The medical device programmer of claim 18, wherein the wide end of the aperture is sized to receive the portion of the item of clothing to enable the portion of the item of clothing to be pulled into the channel.

Claim 20: The medical device programmer of claim 19, wherein the channel is substantially narrower than the wide end of the aperture.

Claim 21: The medical device programmer of claim 18, further comprising grip surfaces to grip the antenna.

Claim 22: The medical device programmer of claim 21, wherein the grip surfaces are rubberized.

Claim 23: The medical device programmer of claim 19, wherein the channel of the aperture is tapered.

Claim 24: The medical device programmer of claim 18, further comprising an insulative telemetry head housing that encases the antenna.

Claim 25: An antenna for a medical device programmer, the antenna comprising:
an antenna head; and

means for attaching the antenna head to an item of clothing associated with a patient and thereby holding the antenna in a substantially fixed position relative to an implantable medical device, wherein the means comprises an aperture defined by the antenna head, wherein the aperture comprises a wide end and a channel disposed adjacent the wide end, wherein the channel is narrower than the wide end and is formed to hold a portion of the item of clothing associated with the patient by an interference fit or friction fit and thereby hold the antenna in a substantially fixed position relative to the implantable medical device.

Claim 26: The antenna of claim 25, wherein the medical device is a neurostimulator.

Claim 27: An antenna for a medical device programmer, wherein the antenna defines an aperture with a wide end to insert a portion of an item of clothing associated with a patient and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture, wherein the channel is formed to hold the portion of the item of clothing by an interference fit or friction fit and thereby hold the antenna in a substantially fixed position relative to an implantable medical device.

Claim 28: A method comprising:

positioning an antenna relative to an implanted medical device, wherein the antenna defines an aperture with a wide end and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture;

inserting a portion of an item of clothing associated with a patient into the wide end of the aperture; and

pulling the portion of the item of clothing into the channel of the aperture to thereby hold the antenna in a substantially fixed position relative to the implantable medical device by an interference fit or friction fit between at least a portion of the channel and the clothing.

Claim 29: A medical device programmer comprising:

a device housing;

telemetry circuitry mounted within the device housing;

an antenna defining an aperture with a wide end to insert a portion of an item of clothing associated with a patient and a channel disposed adjacent the wide end that is substantially narrower than the wide end of the aperture, wherein the channel is formed to hold the portion of the item of clothing and thereby hold the antenna in a substantially fixed position relative to an implantable medical device by an interference fit or friction fit;

a cable to couple the antenna to the telemetry circuitry; and

control circuitry to control the telemetry circuitry to transmit information to the implantable medical device via the antenna, and receive information from the implantable medical device via the antenna.

Claim 30: The antenna of claim 1, wherein the antenna comprises:

a housing defining the aperture;

an antenna loop disposed within the housing; and

a cable configured to couple the antenna to the medical device programmer.

Claim 31: The antenna of claim 30, wherein the antenna loop is substantially oval in shape.

Claim 32: The antenna of claim 30, wherein the housing is formed at least in part from plastic that is molded to define the aperture.

Claim 33: The method of claim 9, wherein the antenna comprises:
a housing defining the aperture;
an antenna loop disposed within the housing; and
a cable configured to couple the antenna to the medical device programmer.

Claim 34: The method of claim 33, wherein the antenna loop is substantially oval in shape.

Claim 35: The method of claim 33, wherein the housing of the antenna is formed at least in part from plastic that is molded to define the aperture.

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE